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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,508	11/02/2001	M. Barr Klaus	99017US	5552

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EXAMINER
LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
1722	3

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,508	KLAUS ET AL.	
	Examiner	Art Unit	
	Emmanuel S. Luk	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/2/2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,11 and 12* is/are rejected.

7)☒ Claim(s) *9 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiguchi (5736079) in view of Stehr (4735080) and Rees (3726625).

Kamiguchi et al teaches the claimed apparatus with a servomotor (M) controlled by a pulse coder (P) that drives a belt (14) moving the pusher rod to move the ejector plate (16) that carries the ejector pins (6) towards or away from the molding surface and product (7). The use of electric motors is well known in industrial practices since electric is a common source of power and having equivalent function as other types of drive motors.

Kamiguchi fails to teach a cam member for the shaft and cam follower, pins having enlarged stop members, pins having outward extending flanges and compression spring, ejector rods slidably carried by knockout bar and spring positioned between end of ejector rod and knockout bar.

Stehr teaches and ejector drive mechanism with a rotational shaft (13), a cam disk (11) that has a cam follower (16) that coupled to the ejector pin (9) translates the rotational movement of the shaft into linear back and forth movement of the ejector pin. A motor is needed to drive the rotation of the shaft, Stehr fails to disclose a specific type of motor. However, any type of motor could be used that have the equivalent function of rotational movement of the shaft, and a common motor used is an electric motor. It would have been obvious to one of ordinary skill in the art to have combined this feature as taught by Stehr with an electric motor, a well known device that is common in both commercial and heavy industry in order to provide a readily available drive source that can be powered by any readily available power outlet.

Rees teaches a knockout bar (21; supporting plate) slidably movable on the ejector pins (20), ejector pins mounted on the ejector plates (27; collars), an outward

extending flanges (25; head) and spring (26) on the pusher rod (24) for urging the rod towards the rear for ejecting mold articles. The ejector rods being the larger diameter portion of the ejector pins behind the ejector plates away from the mold and an enlarged stop member located at the end of the ejector rods on the other side of the knockout bar (Fig. 1). It would have been obvious to one of ordinary skill in the art to have modified Stehr with stop members, flange and spring as taught by Rees in order to limit rearward displacement of the rod and to eject the mold articles when the rod is urged toward the mold.

It would have been obvious to one of ordinary skill in the art to have modified Kamiguchi et al with a cam and cam follower of the ejector pins and stop members, flange and spring as taught by Rees in order to limit rearward displacement of the rod and to eject the mold articles when the rod is urged toward the mold.

5. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiguchi (5736079) in view of Stehr (4735080) and Rees (3726625) as applied to claims 1-5 above, and further in view of Rahn et al (5067892) and Sharman (3680998).

Kamiguchi et al, Stehr and Rees fail to teach a cam track offset from the axis of the drive shaft, the motor driving a pulley including a one way clutch coupled with the ejector drive system, and a second pulley drive system for the opposite direction.

Rahn et al teaches a cam track that is offset from the axis of the drive shaft (31) as it rotates the cam member (30) for the purpose of linear movement of the ejector rod (6) towards and away from the mold. The movement of the cam follower towards and

away from the mold or another direction as taught by Rahn et al have the equivalent function in that the ejector pins are operably connected to the cam follower and the pins themselves are moving towards and away relative to the mold.

Sharman teaches an electric motor (19) that connects to a pulley and clutch mechanism for driving the main drive shaft (20) (Col. 2, lines 49-52). The use of a secondary pulley and clutch system for the other direction is a duplication of parts. It is well settled that the mere duplication of parts has no patentable signficance unless a new and unexpected result is produced. In re Harza, 124 USPQ 378 (CCPA 1960).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention was made to have changed Kamiguchi et al, as modified by Stehr and Rees, with an offset cam track as taught by Rahn et al in order to allow linear movement of the ejector pins towards and away relative to the mold and pulley and clutch mechanism as taught by Sharman in order to drive the main drive shaft.

6. Claims 7, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamiguchi (5736079) in view of Stehr (4735080) and Rees (3726625) as applied to claims 1-5 above, and further in view of Stehr (4552525).

Kamiguchi et al, Stehr and Rees fail to teach a cam member with means for adjusting the relative offset of the cam track and cam track having portion that generates a pulsation in the linear movement of the ejector plate when cam member is rotated.

Stehr ('525) teaches cam member (21) that has adjustable means (19) located in the slots (18) that provide means for adjusting the relative offset of the cam track. The shape of the cam allows for the pulsation in the linear movement of the pin (2).

It would have been obvious to one of ordinary skill in the art to modify Kamiguchi, as modified by Stehr ('080) and Rees, with means for adjusting the relative offset of the cam track and the shape of the cam track varies the substantial circular path of the cam track as taught by Stehr ('525) because it allows for adjustment of the movement of the elements as desired by the operator.

Allowable Subject Matter

7. Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The claimed invention teaches an ejection apparatus having an ejector pin mounted in an ejector plate, ejector rod from the ejector plate supported in a movable platen, the ejector plate is driven by an electric motor having a rotatable output shaft, wherein a cam member is connected to the output shaft, a cam follower is coupled with the knockout bar and a spring is positioned between the end of the ejector rod and the knockout bar so that the knockout bar is biased toward the mold member, such that the

cam follower interacts with the cam member to convert the rotation of the motor drive shaft to the linear movement of the ejector plate.

The prior art specifically fails to teach the ejection apparatus further having the cam track having means for adjusting the relative offset by displacing the location of the drive shaft relative to the central axis of the cam member and further comprising a bearing block receiving the drive shaft on the cam member and means for adjusting the mounting position of the bearing block in the member.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (703) 305-1558. The examiner can normally be reached on Monday through Friday 8 to 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

E.L.
July 17, 2003

W. L. WALKER
SUPERVISORY PATENT EXAMINER
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